

Application No. 10/606,622
Amendment under 37 CFR 1.312

Customer No. 01933

Listing of Claims:

1. (Currently Amended) A printing apparatus comprising:
a rotational support section that rotatably supports a
recording medium;

a character string storing section that stores an input
5 character string;

a print section that prints the character string within a
predetermined print range of the recording medium supported by
said rotational support section by one printing operation;

an arrangement pattern storing section, being prepared in
10 advance, that stores a plurality of kinds of arrangement patterns
to arrange the character string along a circle or arc having a
predetermined length;

an arrangement pattern selecting section that selects one
arrangement pattern from the plurality of kinds of arrangement
15 patterns stored in said arrangement pattern storing section;

an operational condition setting section that sets the
number of printing operation times of said print section
necessary to print the character string and each operational
condition of a rotation angle of said rotational support section
20 corresponding to one printing operation of said print section
based on the print range and the selected arrangement pattern;

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a print data creating section that creates print data, which corresponds to the set number of printing operation times, where the character string is arranged within the print range along the circumference around the center of the recording medium based on the selected arrangement pattern; and

a control section that repeatedly alternately performs:
(i) an operation that causes each created print data to be printed on the recording medium by one printing operation of said print section in a state that the rotation of said rotation support section is stopped, ~~while~~ and (ii) an operation that causes said rotation support section to be rotated by the set rotation angle before a next printing operation of said print section is started according to the set operational condition.

2. (Original) The printing apparatus according to claim 1, further comprising a character size setting section that sets a character size of the character string, wherein said character size setting section sets the number of printing operation times and each operational condition of the rotation angle based on the set character size, print range, and the selected arrangement pattern, and said print data creating section creates the print data such that the character string with the set character size is arranged within the print range along the circumference around the center of the recording medium.

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3. (Original) The printing apparatus according to claim 2,
further comprising a character number detecting section that
detects the number of characters of the character string, wherein
said character size setting section sets a character size of the
5 character string based on the detected number of characters and
the selected arrangement pattern.

4. (Original) The printing apparatus according to claim 2,
wherein said character size setting section sets the character
size of the character string according to a designated character
size.

5. (Original) The printing apparatus according to claim 2,
wherein said print data creating section arranges the respective
characters of the character string with equal distances based on
the selected arrangement pattern.

6. (Original) The printing apparatus according to claim 1,
wherein said arrangement pattern storing section stores
arrangement data indicating an arrangement position and an
inclination with respect to each character that forms the
character string arranged along the circle or arc.

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7. (Original) The printing apparatus according to claim 6, wherein said print data creating section arranges the respective characters of the character string in a radial manner to the center of the recording medium based on the arrangement data corresponding to the selected arrangement pattern.

8. (Original) The printing apparatus according to claim 1, wherein said print section includes a thermal head and moves the thermal head as pressing an ink ribbon against the recording medium supported by said rotation support section to thermally transfer ink of the ink ribbon, thereby printing the character string.

9. (Original) The printing apparatus according to claim 1, wherein the recording medium is a data recordable optical disk having a circular hole at its center, and the character string is printed along the circumference around the circular hole.

10. (Original) A printing method that prints a character string in a circular or arc shape along a circumference around a center of a rotatably supported recording medium by a plurality of times of printing operations, comprising the steps of:

storing a character string to be printed;

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selecting one arrangement pattern from a plurality of kinds of arrangement patterns, being prepared in advance, for arranging the character string along a circle or arc having a predetermined length;

10 setting the number of printing operation times necessary to print the character string and each operational condition of a rotation angle of the recording medium corresponding to one printing operation based on a printable range by one printing operation and the selected arrangement pattern;

15 creating print data, which corresponds to the set number of printing operation times, where the character string is arranged within the print range along the circumference around the center of the recording medium based on the selected arrangement pattern; and

20 repeatedly alternately performing: (i) an operation that causes each created print data to be printed on the recording medium by one printing operation in a state that the rotation of the recording medium is stopped, ~~while~~ and (ii) an operation that causes the recording medium to be rotated by the set rotation
25 angle before a next printing operation is started according to the set operational condition.

11. (Original) The printing method according to claim 10, further comprising the step of setting a character size of the

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character string based on the number of characters of the
character string and the selected arrangement pattern, wherein in
5 said operational condition setting step, the number of printing
operation times and each operational condition of the rotation
angle based on the set character size, the print range, and the
selected arrangement pattern, in said print data creating step,
the print data is created such that the character string with the
10 set character size is arranged within the print range along the
circumference around the center of the recording medium.

12. (Original) The printing method according to claim 10,
further comprising the step of designating a character size of
the character string, wherein in said operational condition
setting step, the number of printing operation times, and each
5 operational condition of the rotation angle are set based on the
designated character size, the print range, and the selected
arrangement pattern, in said print data creating step, the print
data is created such that the character string with the set
character size is arranged within the print range along the
10 circumference around the center of the recording medium.

13. (Original) A program causing a computer to execute the
steps of:

storing a character string to be printed;

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selecting one arrangement pattern from a plurality of kinds
5 of arrangement patterns, being prepared in advance, for arranging
the character string along a circle or arc having a predetermined
length;

setting the number of printing operation times necessary to
print the character string and each operational condition of a
10 rotation angle of the recording medium corresponding to one
printing operation based on a printable range by one printing
operation and the selected arrangement pattern;

creating print data, which corresponds to the set number of
printing operation times, where the character string is arranged
15 within the print range along the circumference around the center
of the recording medium based on the selected arrangement
pattern; and

repeatedly alternately performing: (i) an operation that
causes each created print data to be printed on the recording
20 medium by one printing operation in a state that the rotation of
the recording medium is stopped, ~~while~~ and (ii) an operation that
causes the recording medium to be rotated by the set rotation
angle before a next printing operation is started according to
the set operational condition.